

S.N. 10/501,847

9. (Previously Presented) An electric motor (20) comprising:

a stator assembly (70, 80, 90) and an external rotor assembly (22, 24, 28, 52, 60) adapted to be rapidly mated together;

said external rotor assembly including a rotor cup (24) coupled to a central shaft (28) having a proximal end (26) adjacent said rotor cup (24) and a distal end (34) provided with an enlargement (32);

said stator assembly (90) including a bearing support tube (70) formed with an opening (78), facing said rotor cup, for receiving said central shaft (28) of said rotor assembly;

a plurality of bearings (52, 60) which are mounted on said shaft for insertion into the bearing support tube (70), radial outer surfaces (54, 62) of said bearings being guided in an inner opening (78, 80) of the bearing support tube (70), said bearings serving to support said shaft (28), and of which a proximal bearing (52) is arranged closer to the rotor cup (24) than a distal bearing (60), the shaft (28) being axially displaceable with respect to the bearings (52, 60);

a retaining member (50), arranged between the rotor cup (24) and the proximal bearing (52), said retaining member serving to immobilize at least the proximal bearing (52) in its position in the bearing support tube (70) after assembly;

a spring member (48), effective between the proximal bearing (52) and the rotor cup (24), that pushes the rotor cup (24) away from the proximal bearing (52) in order to push the

S.N. 10/501,847

enlargement (32) provided on the shaft (28) in the direction of the distal end of the distal bearing (60); and

a spacer (58) displaceably arranged in the bearing support tube (70) and defining a predetermined distance between the proximal bearing (52) and the distal bearing (60).

10. (Previously Presented) The motor according to claim 9, wherein

the rotor cup (24) is formed, on a side facing toward the proximal bearing (52), with a projection (38) that is shaped for engagement against said retaining member (50).

11. (Previously Presented) The motor according to claim 9, wherein the spacer (58) is a hollow cylindrical element formed with a radially inwardly protruding projection (59) which abuts the shaft (28).

12. (Currently Amended) The motor according to claim 10 ~~11~~, wherein the spacer (58) is a hollow cylindrical element formed with a radially inwardly protruding projection (59) which abuts the shaft (28).

13. (Previously Presented) The motor according to claim 9,

wherein the enlargement (32) provided on the shaft (28) is a snap ring adapted to engage against a distal end of the distal bearing (60).

S.N. 10/501,847

14. (Previously Presented) The motor according to claim 10,

wherein the enlargement (32) provided on the shaft (28) is a snap ring adapted to engage against a distal end of the distal bearing (60).

15. (Previously Presented) The motor according to claim 11,

wherein the enlargement (32) provided on the shaft (28) is a snap ring adapted to engage against a distal end of the distal bearing (60).

16. (Previously Presented) The motor according to claim 12,

wherein the enlargement (32) provided on the shaft (28) is a snap ring adapted to engage against a distal end of the distal bearing (60).

17. (Previously Presented) The motor according to claim 9, further comprising

a mounting flange (72) formed integrally with a rotor-cup-remote end of said bearing support tube (70).

18. (Previously Presented) The motor according to claim 9,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

S.N. 10/501,847

19. (Previously Presented) The motor according to claim 10,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

20. (Previously Presented) The motor according to claim 11,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

21. (Previously Presented) The motor according to claim 12,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

22. (Previously Presented) The motor according to claim 13,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

23. (Previously Presented) The motor according to claim 14,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

S.N. 10/501,847

24. (Previously Presented) The motor according to claim 15,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

25. (Previously Presented) The motor according to claim 16,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

26. (Previously Presented) The motor according to claim 17,

wherein the bearing support tube (70) is closed except for said opening (78) facing said rotor cup (24).

S.N. 10/501,847

27. (Currently Amended) A method of rapidly assembling together, into a predefined axial relation, a rotor assembly and a stator assembly of an external-rotor electric motor, wherein

said rotor assembly has a rotor cup (24), a central shaft (28) and a plurality of bearings (52, 60), and said stator assembly has a bearing support tube (70), comprising the steps of:

securing said central shaft (28) to said rotor cup (24); pre-mounting on said shaft (28), in sequence, a compression spring (48), a retaining member (50) and said plurality of bearings (52, 60), said bearings being slidable on the shaft (28);

aligning said shaft (28) with a central axis of said bearing support tube (70), and applying compression force (K) to said rotor assembly, thereby compressing said spring, inserting said bearings into said bearing support tube (70) and engaging said retaining member (50) with said bearing support tube (70);

and

removing said compression force, thereby causing said spring to expand, and to displace said bearings (52, 60) relative to said shaft (28) so that said rotor assembly assumes said predefined axial relation to the bearing support tube (70).

S.N. 10/501,847

28. (Previously Presented) The method according to claim 27,

wherein said step of applying compression force includes, after compressing said spring (48), continuing to apply force, thereby causing an axial projection (38) formed on the rotor cup (24) to push on the retaining member (50) at a location adjacent a nearest one (52) of said plurality of bearings (52, 60), and to thereby transfer the force (K) to that nearest bearing.